

# NBC PREPAREDNESS

The threat of a nuclear, biological or chemical (NBC) attack or accident has become a very real threat in our day and age. While nuclear was a main fear in the Cold War years and still can be an issue in rogue countries just acquiring the technology, the fear of the future are biological and chemical issues.

More and more nations are in the business of biological research according to the Center for Disease Control (CDC). And some diseases once eradicated from our planet have returned with a vengeance in the form of weapons. Chemical also poses a threat since most have chemical capability.

Accidents are an issue but the conscious release of NBC agents has become a popular terrorist threat around the world. While you can control neither, we've combined the preparedness information for both accidental release and NBC attacks.

## **Nuclear Accidents and Attacks**

Construction and operation of nuclear power plants is closely monitored and regulated by the Nuclear Regulatory Commission (NRC) and an accident, although unlikely, is possible. The potential threat from an accident at a nuclear power plant is exposure to radiation. This exposure would occur from the release of radioactive material into the environment. The area affected would depend on the amount of the release, wind direction and speed and weather conditions.

Radiation is any form of energy propagated as rays, waves or energetic particles that travel through the air or any material.

Radioactive materials are atoms that are unstable. The unstable atom gives off its excess energy until it stabilizes. That energy is radiation. The process of stabilizing by emitting radiation is called radioactive decay or radioactivity.

There is a lot of natural radiation in the world, derived from exposure to the sun, radioactive elements in soil and rocks, regular household appliances like TV's and microwave ovens and x-rays. Even the human body emits radiation.

A common misconception about radiation is that anything that fallout touches becomes radioactive. This is not true. It is true that fallout lying upon an object can cause radiation burns if touch. But if the object is cleaned off, then the object will be safe to touch.

## **Biological Agents**

Biological agents are organisms or toxins that have illness-producing effects on all life forms. Most biologicals cannot be detected until they start producing problems it is almost impossible to know that a biological attack has occurred. Mitigation includes seeking shelter, sealing the premises or evacuation.

Some biological agents are contagious while others affect the host only but all require quarantine and immediate care by a medical professional.

Plague and Anthrax are the bacteria of choice. Plague is easy to work with they take the proper amount and kind of antibiotic and then they are fairly safe. Once you are finished, you can very easily clean up any spills with disinfectant. Any you miss will be dead in a couple of days. Anthrax would be used by specially trained cells for attacks on big cities. These cells have to be extremely careful, thus requiring a lot of advanced training. If you got some on your clothes and happened to inhale it several years later, it could kill you. So they will have to strip, thoroughly shower, and leave all articles of clothing that were worn during the attack behind. The only two other bacteria that are normally considered was Cholera and Typhoid Fever but these usually do not kill. They only inconvenience people for a few days.

## **Chemical Agents**

Chemical agents include: accidental hazardous material release like an overturned tractor-trailer or train wreck, chemical plant fires or explosions at manufacturing plants and terrorism. The problem is that many times you cannot see or smell anything unusual.

Chemicals are a natural and important part of our everyday life. We use chemicals everyday.

A home chemical emergency arises when chemicals are used or stored improperly. A major emergency is a situation that releases a hazardous amount of chemical into the environment. Major accidents sometimes result in fire or explosion but many times you can't see or smell anything.

In the event of a major chemical emergency, you will be notified by the authorities.

## **Before an NBC Emergency**

As with any other disaster or emergency preparedness plan, you need to determine the risk in your area and to talk about it with your family. Make sure that you have a properly outlined Family Disaster Plan and that everyone understands their role in that plan. Be sure to include the children.

If you live near a nuclear facility there is a system for notifying the public if a problem occurs. The emergency classification level of the problem is defined in four categories:

- **Notification of an Unusual Event** - This is the least serious of the four. The event poses zero threat to you or the facility. No action is necessary.
- **Alert** - An alert is declared when an event has occurred that could reduce the level of safety at the facility but the backup systems are still in place and working. Emergency agencies are usually notified and kept informed of the situation. No public action is necessary.
- **Site Area Emergency** - This is declared when an event involves major problems with the facility's safety systems has progressed to a point that the potential release of some radioactive material into the air or water is possible but is **NOT** expected to

exceed EPA Protective Action Guidelines (PAGs) beyond the site or facility. Still no public action is necessary.

- **General Emergency** - This is the most serious and is declared when an event has caused the loss of safety systems. If such an event occurs, radiation could be released that would travel outside the boundaries of the site area. Local and state authorities will sound an alert and take action to protect the residents near the facility. People in the affected area may be advised to evacuate or to shelter in place.

There is no real planning for an NBC attack. You can listen to the news and pay attention to all information that you get regarding possible attacks. Stay away from areas with lots of people or monuments, airports, shopping centers, etc.

Accidents happen - look around your area and find out what kinds of accidents are possible  
- major highways, manufacturing or nuclear facilities, biological labs, etc.

## **How to Shelter in Place (SIP)**

One of the probable instructions you will be given in an NBC emergency is to "shelter-in-place" (SIP). This is aimed at reducing your exposure to the agents involved, therefore offering as much protection as possible considering the situation. If you are told to SIP, go indoors immediately and follow the instructions below:

- Close all windows and doors.
- Turn off all fans and close all vents for heating and cooling systems.
- Listen to local radio or television for information on the situation at hand and protective measures to take.
- While gathering the family you can provide minimal breathing protection by covering your mouth and nose with a damp cloth. Many chemical and biological agents can damage breathing passages.

- As soon as the SIP announcement is issued, fill up bathtubs and sinks and ALL available containers with water and turn off the intake valve to your home. Water supplies may become contaminated Use the water you do have sparingly.
- If gas or vapors could have potentially entered the building, take shallow breaths through a cloth or towel.
- Avoid food or beverages that may have been contaminated.
- Seal the house so that contaminants can't enter by doing the following:
  - Close and lock all windows and doors to your home.
  - Turn off all heating and air conditioning systems.
  - Close the fireplace damper.
  - Seal gaps and cracks under doorways and windows with wet towels and duct tape.
  - Seal gaps around window and air conditioning units, bathroom and kitchen exhaust fans and stove and dryer vents with duct tape and plastic sheeting, wax paper or aluminum foil.
  - Close off nonessential rooms such as storage areas, laundry rooms and extra bedrooms.
  - Go to an aboveground room (not the basement) with the fewest windows and doors. Some chemicals are heavier than air and may seep into basements, even if the windows are closed.
  - Take your Disaster Supplies Kit with you.
  - Stay in the room and listen to your radio or television until you are told that the threat has passed or you are told to evacuate.
  - If there is a danger of explosion, close all the shades, blinds and curtains and stay away from the windows. If the windows break the shades, etc. will protect from flying glass.

## Evacuation

If you are told to evacuate, grab your Disaster Supplies Kit and essential items only and go. Do not go back for other items. Follow the evacuation routes that are recommended. Do not take any shortcuts because roads may be blocked.

- Stay calm listen carefully and follow instructions.
- Listen to the radio or television and make sure the evacuation order applies to you. If you still have time, you should be packing anything extra that you can and get ready to go.
- Do not use the telephone. In disaster situations the phone lines are frequently overwhelmed.
- If you are told to evacuate, do so immediately.
- **ONLY** if you have time, seal your house to contaminants by shutting off all vents, closing fireplace dampers, turn off appliances and lights - you can leave refrigerator and freezers plugged in.
- Close and lock all doors and windows.
- Move quickly and calmly.

Check on neighbors to make sure they have been notified but this is no time for idle talk.

- Close your car windows and keep air vents closed and heat and air conditioning off.

## After the Disaster

Only return home after the authorities tell you it's safe. Follow their instructions regarding food and water. Also follow their guidelines in regards to handling cleanup.